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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/078,005	02/20/2002	Stan Wojciak	LC-301/PCT/US/CON	4721

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EXAMINER
BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
1711	6

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/078,005	Applicant(s) WOJCIAK ET AL.	
	Examiner Susan W Berman	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 16-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 16-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Priority

Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The second application must be an application for a patent for an invention which is also disclosed in the first application (the parent or provisional application); the disclosure of the invention in the parent application and in the second application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ 2d 1077 (Fed. Cir. 1994).

An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)).

This application repeats a substantial portion of prior Applications Nos. 08/805,193, filed 02-27-1997, PCT/US98/03819, filed 02-26-1998, 09/486423, filed 10-20-1999, and adds and claims additional disclosure not presented in the prior application. Since this application names an inventor or inventors named in the prior application, it may constitute a continuation-in-part of the prior application. Should applicant desire to obtain the benefit of the filing date of the prior application, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78.

Response to Amendment

The amendment filed 02-20-2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the paragraphs describing sulfur-containing compounds inserted on page 12.

Applicant is required to cancel the new matter in the reply to this Office Action. Alternatively, this application could be filed as a Continuation-In-Part.

Newly submitted claims 31-34 have been renumbered claims 33-36 under Rule 126.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9, 11-14, 16-19 and 22-36 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions comprising metallocenes of structure I or structure II, shown on pages 6-9, in combination with one or more of the photoinitiators disclosed on page 10, does not reasonably provide enablement for any known metallocene substance and any known photoinitiator. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 11-14, 16-19 and 23-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims do not clearly differentiate the "metallocene" and the "photoinitiator to render the composition capable of photocuring in air upon exposure to at least one type of electromagnetic spectrum..." because the metallocene is a photoinitiator "capable of photocuring in air upon exposure to at lest one type of electromagnetic spectrum". See EP 0 769 721 or EP 1 124 159 or US 5,652,280.

Claim 2 fails to further limit claim 1 since claim 1 already recites addition of an amount of photoinitiator to render the composition capable of photocuring upon exposure to electromagnetic radiation.

Claims 3-5: "cyanoacrylate component includes a cyanoacrylate monomer" or "cyanoacrylate monomer" should be replaced with "2-cyanoacrylate" as recited in claim 1.

Claims 6, 7, 9, 11: the claims are rendered indefinite by the phrases "may occur", "may be", "may or may not be". It is not clear whether the substituents being defined are as recited or not.

Claim 11: the phrase "is selected from" should be replaced with "is selected from the group consisting of".

Claim 12: it is not clear what the scope of "derivatives" of ferrocenes or titanocenes is. The kinds of derivatives suitable in the instant invention should be clearly set forth.

Claim Rejections - 35 USC § 102/103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7, 11-14, 16-22, 26-34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikune et al (EP 0 769 721 A1) in view of Attarwala et al (5,328,944). Mikuni et al disclose adhesive compositions comprising an alpha-cyanoacrylate and a metallocene or a mixed catalyst comprising a metallocene and a cleavage-type photoinitiator. The mixed catalyst can be a metallocene and an acylphosphine oxide photoinitiator. APO is used with ferrocene in Examples 6, 15, 23, 28, 34, 39, 44, 50 and 72-101. Addition of heat stabilizers is taught (page 10, line 59). Attarwala et al teach that it is known to employ sulfur containing compounds in cyanoacrylate adhesive composition in order to enhance the thermal resistance of the cured polymer. With respect to claims 6, 7, 11, 12 and 13, Mikune

et al disclose metallocenes encompassed by those instantly claimed. With respect to claim 14, several of the recited photoinitiators are disclosed by Mikuni et al. With respect to claim 16, it is noted that Mikune et al teach that the cyanoacrylate compositions "may, if necessary, contain one or more additives such as ... thickening agents....fillers...". See page 10.

It would have been obvious to one skilled in the art to include a sulfur-containing compound, as taught by Attarwala et al, in the compositions disclosed by EP '721. One of ordinary skill in the art at the time of the invention would have been motivated to do so by the teaching of Attarwala et al that sulfur-containing compounds enhance the thermal resistance of cured cyanoacrylate adhesives. EP '721 provides motivation by teaching addition of heat stabilizers.

With respect to claim 14, It would have been obvious to one skilled in the art to employ a cleavage-type photoinitiator and to select a second photoinitiator from those taught by Mikune et al. Mikune et al teach that the photocurablity can be greatly improved by incorporating a cleavage-type photoinitiator into the composition. With respect to claims 20-21, It would have been obvious to one skilled in the art at the time of the invention to employ a mixture of Irgacure 184 and an acylphosphine oxide as the cleavage-type photoinitiator in the compositions disclosed by Mikuni et al because Mikuni et al teach that the phenylpropanone and acylphosphine oxide photointiators are equivalent for use as cleavage-type photoinitiators and also teach that the photoinitiators can be used alone or in mixtures (page 10, lines 19-43).

With respect to claims 27-29 and 36: Applicant states in the instant specification, on page 11, line 11, to page 12, line 3, that "ordinarily cyanoacrylate compositions free of added thickener or viscosity modifier are low viscosity formulations (such as in the range from 1 to 3 cps)". Also see Hiraiwa 4,818,325 for a teaching of the low viscosity of 2-cyanoacrylate composition. It is the examiner's position that the compositions disclosed by Mikune et al would inherently be low viscosity formulations having viscosities within the recited ranges in the claims. With respect to the viscosity of 1-15 cps in claim 27 or

claim 36 or the viscosity of 1-3 cps in claim 36, it would have been obvious to one skilled in the art at the time of the invention to omit thickeners or fillers in the compositions taught by Mikune et al. Mikune et al provide motivation by teaching that such additives can be used "if necessary" to heighten the viscosity of the composition. One skilled in the art at the time of the invention would have been motivated by an expectation of providing low viscosity formulations in the absence of thickening agents or fillers. There is no evidence of record showing unexpected results obtained by limiting the viscosity as set forth in the instant claims. With respect to the viscosity from 100-300 cps in claim 28 or claim 36 or the viscosity from 600-1000 cps in claim 29 or claim 36: It would have been obvious to one skilled in the art at the time of the invention to add thickening agents or fillers that function as thickening agents to the cyanoacrylate compositions taught by Mikune et al in order to heighten the viscosity of the compositions. Mikune et al provide motivation by teaching that thickening agents can be added to heighten the viscosity of the composition. It would have been obvious to one skilled in the art at the time of the invention to determine the optimum viscosity of a cyanoacrylate composition taught by Mikune et al required for a particular bonding application. Cyanaoacrylate compositions for bonding applications are well known in the art and determination of the viscosity required for bonding applications is considered to be within the skill of one having ordinary skill in the relevant art.

Claims 1-7, 11-14, 16-19, 22, 26-30, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikune et al (EP '721) in view of Attarwala et al, as applied to claim above, and further in view of Gatechair et al (4,707,432). The disclosure of Mikune et al is discussed above. Gatechair et al teach the use of a photoinitiator and a ferrocenium salt in a free radical polymerizable compositions. The photoinitiators disclosed include acetophenones, ketals, aryl glyoxalates, acylphosphine oxides and aromatic halonium salts, including several photoinitiators recited in instant claim 14. Esters of (meth)acrylic acid are taught as suitable free radically polymerizable materials.

Cationically polymerizable materials are also taught. Irradiation with light from 200 to 600 nm is taught. Gatechair et al teach that the blend of photoinitiators improves light sensitivity of compositions where greater sensitivity to visible light is required.

It would have been obvious to one skilled in the art at the time of the invention to employ the cleavage photoinitiators taught by Gatechair et al as being useful in combination with a ferrocene component as the cleavage photoinitiator in the compositions disclosed by Mikune et al. Mikune et al teach adding a cleavage-type photoinitiator to a metallocene to improve the photocurability of the cyanoacrylate composition. Gatechair et al provide motivation to substitute the disclosed cleavage photoinitiators for those specifically taught by Mikune et al by teaching that they are equivalent in function when used with ferrocene, a well-known metallocene. It would have been obvious to one skilled in the art to select a photoinitiator having sensitivity to visible light from those taught by Gatechair et al because Gatechair et al teach that the combination of free radical curing agents and ferrocenium salts provides increased sensitivity to visible light and a significant improvement in cure (column 1, lines 38-51).

Claims 23-26 and 30-32 are rejected under 35 U.S.C. 103(a) as obvious over Mikune et al in view of Attarwala et al, as applied to claims above, and further in view of H.W. Coover et al "Cyanoacrylate Adhesives". Coover et al teach that cyanoacrylate adhesives are useful for bonding electronic components and medical and dental devices, among other uses. It would have been obvious to one skilled in the art at the time of the invention to employ compositions selected from those disclosed by Mikune et al comprising cyanoacrylate monomers for the uses discussed by Coover et al.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ...

may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claim 20 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 4 of prior U.S. Patent No. 5,922,783. This is a double patenting rejection.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-14 and 16-36 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9,11-14, 16-34 of copending Application No. 10094816 in view of Attarwala et al '944. The claims of Serial No. 10094816 recite the same components as set forth in the instant claims except for the sulfur compound (component c). Attarwala et al teach that it is known to employ sulfur containing compounds in cyanoacrylate adhesive composition in order to enhance the thermal resistance of the cured polymer. It would have been obvious to one skilled in the art to include a sulfur-containing compound, as taught by Attarwala et al, in the compositions claimed in SN '816. One of ordinary skill in the art at the time of the invention would have

been motivated to do so by the teaching of Attarwala et al that sulfur-containing compounds enhance the thermal resistance of cured cyanoacrylate adhesives.

This is a provisional obviousness-type double patenting rejection.

Claims 1-14, 16-22 and 26-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5 922 783 in view of Attarwala et al. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The claims of US '783 recite compositions comprising an alpha-cyanoacrylate, a metallocene and a photoinitiator. Attarwala et al teach that it is known to employ sulfur containing compounds in cyanoacrylate adhesive composition in order to enhance the thermal resistance of the cured polymer. It would have been obvious to one skilled in the art to include a sulfur-containing compound, as taught by Attarwala et al, in the compositions claimed in SN '816. One of ordinary skill in the art at the time of the invention would have been motivated to do so by the teaching of Attarwala et al that sulfur-containing compounds enhance the thermal resistance of cured cyanoacrylate adhesives. The viscosities recited in instant claims 27-29 and 36 are considered to be inherent properties of the compositions claimed in US '783. Compositions encompassed by the comprising language of the claims would be expected to provide different viscosities varying from very low viscosities when only cayanoacrylate monomers are present to higher viscosities when thickening agents or viscosity modifiers are present. Addition of thickening agents or viscosity modifiers is taught in column 5 of US '783.

Claims 1-14, 16-22 and 26-346are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5 922 783 and Attarwala et al and further in view of Mikune et al. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons. The scope of the claims overlaps since the

2-cyanoacrylate component, the metallocene component and the photoinitiator component are the same. See the rejection over US '783 and Attarwala et al set forth above. The claims of US '783 do not recite viscosities or mention thickening agents or viscosity modifiers; however, the comprising language of the claimed compositions encompasses such additives. Addition of thickening agents or viscosity modifiers is taught in column 5 of US '783. Mikune et al teach adding thickening agents or fillers to heighten the viscosity of analogous cyanoacrylate compositions. Therefore, It would have been obvious to one skilled in the art at the time of the invention to add thickening agents to the composition disclosed by US '783 provide heightened viscosity, as taught by Mikune et al in analogous compositions.

Claims 23-25, 30, 31 and 32 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 5 922 783 in view of Attarwala et al and further in view of H.W. Coover et al "Cyanoacrylate Adhesives". See the rejection over US '783 and Attarwala et al set forth above. Coover et al teach that cyanoacrylate adhesives are useful for bonding electronic components and medical and dental devices, among other uses. It would have been obvious to one skilled in the art at the time of the invention to employ compositions selected from those disclosed by Mikune et al comprising cyanoacrylate monomers for the uses discussed by Coover et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mikune et al (US 5,824,180) is considered to be cumulative of EP 0 769 721.

Hiraiwa et al (4,818,325)disclose a method of bonding employing a primer comprising an organometallic compound and a cyanoacrylate adhesive. Thickener is used to increase viscosity since the 2-cyanoacrylate is a low viscous liquid having a viscosity of about several cp (column 8, lines 15-20).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Berman whose telephone number is (703) 308-0040.

The fax number for this group is (703) 872-9310 or, for submissions after Final Rejection, (703) 872-9311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Customer Service telephone number (703) 308-0661.

Susan Berman
Primary Examiner
Art Unit 1711

S B
7/25/02